

**ABSTRACT OF THE DISCLOSURE**

**PROCESSOR AND METHOD OF EXECUTING A LOAD INSTRUCTION THAT**

**BIFURCATE LOAD EXECUTION INTO TWO OPERATIONS**

5           A processor implementing an improved method for  
executing load instructions includes execution circuitry,  
a plurality of registers, and instruction processing  
circuitry. The instruction processing circuitry fetches  
a load instruction and a preceding instruction that  
10 precedes the load instruction in program order, and in  
response to detecting the load instruction, translates  
the load instruction into separately executable prefetch  
and register operations. The execution circuitry  
performs at least the prefetch operation out-of-order  
with respect to the preceding instruction to prefetch  
data into the processor and subsequently separately  
executes the register operation to place the data into a  
register specified by the load instruction. In an  
embodiment in which the processor is an in-order machine,  
20 the register operation is performed in-order with respect  
to the preceding instruction.